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ABSTRACT

Noting that the 1974 revision and standardization of the Burt Word Reading Test resulted in a reordering of some of the words in accordance with current levels of difficulty, this manual includes directions for administering and scoring the new test form, provides age and class norms, and offers advice on the use and interpretation of the scores. Information on the standardization and the reliability of the scores is also given. Appendixes contain a copy of the words used in the test and tables of norms. (FL)

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THE BURT WORD READING TEST

1974 REVISION

MANUAL

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INTRODUCTION

This 1974 revision and standardisation of the Burt Word Reading Test has resulted in a re-ordering of some of the words in accordance with the relative difficulties found in the course of the standardisation. This revised order is given in Appendix A (page 15). Cards containing the test, which are sold in packets of 20, are published by Hodder and Stoughton Ltd.

This manual is intended for the general user—teacher, psychologist etc. It includes directions for administration and scoring, Age and Class norms, and advice on the use and interpretation of scores.

Limited information on the standardisation and the reliability of scores is also given. A pamphlet giving a technical description of how the standardisation was carried out, together with full statistical appendices is in preparation and will be available shortly directly from The Scottish Council for Research in Education, 16 Moray Place, Edinburgh EH3 6DR.

March 1976

ACKNOWLEDGMENTS

"The work of standardisation of an educational test is essentially a co-operative enterprise" was how P E Vernon evaluated his pioneering study of this test in 1938. The same is true of the present study. Indeed insofar as the sample net was cast wider on this occasion it is probably more true. The assistance or co-operation of people throughout the educational system of Scotland was required in order to test the larger number of children involved, and the Council was fortunate in that all approached responded most willingly.

Thanks are due to the Directors of Education, Headteachers, and Teachers responsible for the pupils tested. All were most helpful in facilitating access to the children at a time of the year which for many must have been particularly inconvenient. As the demand upon school time for studies of this nature increases research workers are grateful for the continuing good-will of the schools.

The bulk of the testing was organised and carried out by the staff and students of the Colleges of Education. If their assistance and contact with local schools had not been available the size of the study would have been much smaller and the findings less reliable. It is hoped that there was sufficient interest in the work itself to recompense the students, and the staff as well, for their expenditure of energy and time. The Council is also indebted in this aspect of the work to the personnel of several child guidance centres; their help with testing children in the more remote schools was invaluable.

The organisation of the data collection, the management of the data, and the statistical analysis have been the responsibility of Mr W Graham Thorpe (Research Officer, SCRE). Mr Gerard J Pollock (Depute Director, SCRE) supervised the general conduct of the project. He also played a major role in the formulation of the sampling design and subsequent analysis. In preparing the text of this Manual, Mr Thorpe had the assistance of Dr David A

Walker (formerly Director, SCRE) and Mr John L Powell (Assistant Director, SCRE). Advice, particularly on the form of presentation of the information contained in this manual, was provided by Dr W Bryan Dockrell (Director, SCRE). The text was edited by Mr Powell.

Inevitably the authors of this report have been particularly indebted to Professor P E Vernon as the author of the previous manual and standardisation published by SCRE. In particular the directions for applying the reading test are quoted verbatim from the earlier manual. It is gratifying to note that Professor Vernon still has an active interest in the Burt test, having recently conducted a fresh standardisation in Alberta (Canada).

Chapter I

THE BURT READING TEST

This test, which was devised by Burt over fifty years ago, is still a most useful educational tool. The recent report of the Bullock Committee* stated that the test was currently employed in one third of all primary schools and fifteen per cent of secondary schools. The test is also frequently used by child psychologists and research workers.

It consists of 110 words graded in approximate order of difficulty and is given individually, the child being told to read as many words as he can, at his own speed. He continues until he has attempted and failed at least 10 consecutive words: it is then presumed that the remainder are too difficult for him, but he is allowed to look ahead and pick out any other words he thinks he can manage. From the total number of words which he can spontaneously pronounce without error his reading age can be immediately calculated using the norms provided.

Evidence produced by many years of research has shown that criticisms sometimes made of the test have little weight. At first sight the test appears to be too short and simple to be either reliable or valid. Some would say that several of the correct pronunciations may be obtained by chance; that the child would be unable to reproduce them on a later occasion. Some would point out that certain words might have been recently covered in class work, or might be affected by many factors other than the child's fundamental reading ability. And many would object that the word-pronouncing capacity upon which the test depends is one of the least important aspects of reading ability; that speed, fluency and comprehension are entirely omitted by it. However, the number of words is sufficiently great to cancel out

* *A Language for Life*, HMSO 1975 (ISBN 0 11 2703267), pages 381 and 426. The survey was confined to England. Figures for Scotland and Wales are not available.

the chance factors which might help or hinder the pronunciation of a few individual words. The test has a high degree of reliability, and produces scores which correlate well with other measures of reading ability—ie, it has a satisfactory validity.

The test possesses additional value, both for the teacher and the psychologist, in that it is an individual one. The child's manner and voice may give useful hints as to his nervousness and tension or confidence and social adjustment, his cautiousness or carelessness, and his persistence when confronted with difficulties. Furthermore, the main types of error that a backward reader makes will help in a preliminary diagnosis of his disability. Nevertheless, the teacher must realise that other and more specific tests are required to identify the problem faced by this type of child.†

The 1974 revision of the Burt Test has not only yielded up-to-date norms (see Chapter III) but a revised word order that takes into account changes that have occurred in the relative difficulties of the words. Additional information on the re-ordering of the words is given in Chapter IV, Section 3.

† See for example *Special Provision for Reading* by David Moseby, NFER, 1975 (ISBN 85633 0639).

Chapter II

DIRECTIONS FOR APPLYING THE READING TEST

Surroundings

The surroundings should preferably be quiet and free from distraction.

Co-operation

If the child is clearly in a nervous or abnormal emotional condition, the tester should try to put him at his ease by appropriate conversation. He should be encouraged throughout, and his performance praised. The word "test" need not be mentioned, nor any suggestion made as to its difficulty. If, however, he shows obvious carelessness, greater accuracy may occasionally be suggested, preferably at the end of a set of 10 words. A suitable opening gambit might be—"I want to see how well you can read these words to me."

Procedure

The child is given the printed list and (if aged 9 or less) told to read from the beginning, at his own speed, across the lines. If he reads too quickly for his responses to be recorded, he may be told to slow down. He should continue until he has failed at least two lines (10 words) in succession. Older children, or those known to be superior readers, may be started somewhat further on in the list. But if they make any mistakes in their first two lines, they should be taken back to an earlier pair of lines, so as to ensure that they will not be credited with any words which they cannot actually read. Some teachers, especially with young children, may prefer to hold the card themselves and use a mask to hide the more difficult words from the child. Each line can then be uncovered as it is reached.

In general, prompting should not be given, nor should the child be told when he is wrong; for each word is to be regarded as read correctly only if done so spontaneously. But the procedure should be governed by the child's subjective attitude. If he appears satisfied with an erroneous pronunciation, then he might become discouraged if told his mistake. On the other hand, if he is clearly unable to pronounce a word and seems dissatisfied and desirous of help, help may be given; such a word should of course be counted wrong. In any case the test should never be turned into a lesson on how to pronounce difficult words. The tester's record sheet should be kept out of sight, and the recording of responses should be inaudible, both because the child might change his mind and produce the correct pronunciation if he knew that his first attempt was wrong, and because the noise of heavily written X's, or the sight of a succession of them, might discourage him.

Self-corrections should be accepted if they are produced without any hints from the tester. If the child is uncertain and says, for instance, "palest or pallest", then he should be made to decide for himself which version he prefers. Repetition of a word may be demanded if the tester is uncertain whether the first attempt was correct. Guessing is allowed; indeed he should be encouraged to guess rather than omit words of which he is unsure. He should make some attempt at every word until he has almost reached his limit. Then occasional words may be left out if he shies at them, or makes protracted and hopeless efforts, and seems to be fatigued. The words are in approximate order of difficulty, but some children may succeed and fail very erratically. In such cases, when the child seems to be getting near his limit, the reading of every word may be discontinued; instead the tester should point to each word and ask if he knows it, until three lines have been traversed without any success. Or he may be encouraged to look ahead and see if there are any others which he might know.

Pronunciation

It should not be difficult to determine whether or not the easier words in the scale are pronounced correctly. The consonantal

and vowel sounds must be approximately correct, but may of course be modified in accordance with local dialect—and the correct relative stress should be given to each syllable. If a child reads a polysyllabic word fragmentarily, with equal stress on each separate syllable, then he must also say the word as a whole with the right stresses before it is credited to him. But pedantic accuracy should not be expected.

Calculation of the Reading Age

The calculation of the reading age has been simplified by the provision of Table 1 in the following chapter. For example, a child scoring 41 has a reading age of 7 years 5 months, and one scoring 88 has a reading age of 11 years 8 months.

Interpreting the Results

Teachers and psychologists will need no reminder that within any classroom there is usually a wide distribution of ability in any skill, and that it is only the "average" child who has a reading age exactly equal to his chronological age. Discrepancies between the two, if large, require further investigation. Users of the test are also reminded that every test, and especially an individual test of this type, has a certain degree of unreliability. In this test, in 19 cases out of 20, one may be confident that, when the test has been properly administered, the reading age obtained will be not more than 6 months in error in either direction. Technical information concerning the reliability of the test is given in Chapter IV, Section 2.

Chapter III

THE 1974 TEST NORMS

The material for these norms was obtained from the testing in June 1974 of about 2,200 Scottish children spread evenly over the seven years of the primary school and representative of all children at these stages in education authority schools. A note on the standardisation sample appears later (see Chapter IV, Section 1).

The norms are given in two forms, the first relating the score of a child to that of others of given chronological ages (Table 1), the second relating his score to that of others in his year group in primary school (Table 2).

Reading Ages

Table 1 gives the reading age appropriate to each score. In it, entries are in years and months, eg, 7.5 represented 7 years 5 months and not 7½ years. It will be observed that the lowest entry is for age 6.4 years. Consequently the Reading Age Norms cannot be used for Primary 1* and are of restricted utility for Primary 2 since part of the class, even at the end of the year, are likely to have scores of less than 27 and therefore reading ages falling below 6.4 years by an unknown number of months. It should be noted that no attempt should be made to use the Reading Age Norms for Primary 1 pupils even when their scores are 27 or above, since the reading ages that would be obtained by so doing might be misleading. The Class Norms, which are described below, are, however, suitable for use with Primary 1 as with all other classes. (An explanation of why Reading Age Norms have not been given for Reading Ages below 6.4 years and of why the norms are unsuitable for Primary 1 children is given in Chapter IV, Section 4.)

* By Primary 1 is meant the class to which pupils are normally first admitted at the age of five. (In Scotland the seven years of primary schooling are designated P1-P7.)

TABLE 1

NORMS FOR THE CONVERSION OF RAW SCORES INTO EQUIVALENT READING AGES

Score							27	28	29	30
R.A.							6.4	6.5	6.6	6.7
Score	31	32	33	34	35	36	37	38	39	40
R.A.	6.8	6.9	6.10	6.10	6.11	7.0	7.1	7.1	7.2	7.3
Score	41	42	43	44	45	46	47	48	49	50
R.A.	7.5	7.6	7.7	7.8	7.9	7.10	7.11	8.0	8.2	8.3
Score	51	52	53	54	55	56	57	58	59	60
R.A.	8.4	8.5	8.6	8.7	8.9	8.10	8.11	9.0	9.1	9.2
Score	61	62	63	64	65	66	67	68	69	70
R.A.	9.3	9.4	9.6	9.7	9.8	9.9	9.10	9.11	10.0	10.2
Score	71	72	73	74	75	76	77	78	79	80
R.A.	10.3	10.4	10.5	10.6	10.7	10.9	10.10	10.11	11.0	11.1
Score	81	82	83	84	85	86	87	88	89	90
R.A.	11.2	11.3	11.4	11.6	11.7	11.8	11.9	11.10	11.11	12.0

Notes:

(1) This table is suitable for use only with children in Primary 2 or above. It should not be used for Primary 1.

(2) By Primary 1 is meant the class to which pupils are normally first admitted at the age of five. (In Scotland the seven years of primary schooling are designated P.1-P.7.)

(3) The notation 7.5 stands for 7 years 5 months not 7 years 6 months.

Class Norms

These norms relate the performance of a child to that of Scottish pupils in the same stage in their primary course. They are given in the form of percentiles, eg, the entry 51 under 90% for Primary 2 indicates that 90% of that class made scores below, or at most equal to, 51. Only 10% made scores over 51. (See page 9.)

It must be noted that these scores represent the position *at the end* of the school year. At the beginning of the school year the figure for the end of the previous school year provides the best estimate. Although figures for intermediate times in the school year can be estimated, these are subject to error. Those who nonetheless wish to make such estimates should first consult Chapter IV, Section 5.

National and Local Norms

As previously indicated, both sets of norms are based on a representative sample of Scottish children. The standards in English and Welsh schools and in particular areas of Scotland may well differ from them, and teachers and psychologists in these areas should bear this in mind. No guidance can be given from the data regarding the extent of the differences. However, there have been other standardisations in recent years establishing norms for particular localities. The most recently reported set of local norms in England are those for Cheshire.*†

* Data for Cheshire are given in "A Restandardisation of the Burt-Vernon and Schonell Word Reading Tests" by E Shearer and R Apps, *Educational Research*, 18.1 (Nov 1975) pp 67-73.

† See also P E Vernon "A Restandardisation of the Burt-Vernon Graded Word Reading Test", in *The Western Psychologist*, iv 3, 1973.

TABLE 2

CLASS NORMS

	Percentile Scores for School Year Groups together with lowest and highest scores										
Stage of Schooling	*Lowest score*	*10%*	*20%*	*30%*	*40%*	*50%*	*60%*	*70%*	*80%*	*90%*	*Highest score*
End of Primary One	0	2	4	6	9	12	15	19	24	32	60
End of Primary Two	0	14	20	24	28	31	34	38	43	51	78
End of Primary Three	15	30	36	40	43	46	50	55	61	70	90
End of Primary Four	25	33	40	44	50	56	61	66	71	75	95
End of Primary Five	25	42	50	58	62	67	72	77	82	89	100
End of Primary Six	30	48	60	67	72	77	82	87	92	97	105
End of Primary Seven	40	62	72	80	84	88	92	96	99	102	108

Chapter IV

SOME TECHNICAL NOTES

(1) *The Sample*

After Burt's original standardisation of the test on London children, as described in his *Mental and Scholastic Tests*,* the test was restandardised by P E Vernon† in 1938 on a sample of Glasgow children, numbering about 1,000, and then in 1952 by M H H Thomson** on a sample of Edinburgh children, numbering about 6,300.

The 1974 standardisation differs from those preceding it in that it is based on a national sample of primary classes drawn from the whole of Scotland. Special schools for handicapped children, and grant-aided and independent schools were excluded; since less than 4% attend such schools, the sample represents the vast majority of Scottish primary school children.

The sample was intended to include approximately 300 children in each of the seven years Primary One to Primary Seven of the Scottish system, giving an average of 25 for each monthly age-group and a sampling ratio of 1 to 300. The sample of classes was a simple random one. This procedure was designed to yield a representative sample of Scottish primary school children.

Returns were received from all but six of the 168 classes initially chosen. There were valid reasons for lack of data from four of the six; two of them used the initial teaching alphabet and were consequently unsuitable, two were small schools which had no children of the required age. In the other two cases the data were not available.

* C Burt, *Mental and Scholastic Tests* (King, 1921).

† *The Standardisation of a Graded Word Reading Test*: P E Vernon: Publication XII of the Scottish Council for Research in Education (ULP, 1938).

** *A Study of some of the Causes of Failure or Success in Reading* by Matilda H H Thomson (BEd Thesis, Edinburgh, 1954).

(2) *Reliability of the Test*

Statistical tests indicate a level of reliability for this test even higher than that found by Vernon in 1938. The correlation between split-halves of the test yields a coefficient of ·975 and the application of the Kuder-Richardson Formula 20 yields one of ·971.

It should be noted however that even a test of such high reliability has an error of measurement. Thus a reading age obtained using this test is, at the 95% level of confidence,* likely to lie within six months of the pupil's "true" reading age. This means that when the test has been properly administered an obtained reading age is unlikely to be more than six months in error.

(3) *Revised Order of Words*

It was easy to demonstrate that the order of difficulty of some of the words had changed over the years; it was not so clear what would be the best criterion for deciding the new order. The kernel of the problem was that the relative difficulty of the words depended on the ages of the children reading them; the order based on the total group of children was not the same as that perceived by, for example, children in Primary Two. The solution eventually adopted was to order the words according to their difficulty as seen by that age group for whom they were mainly relevant. Specifically, the first thirteen words were ordered by the performance of children in Primary One, words 14-19 by reference to both Primary One and Two, words 20-29 by reference to Primary Two alone, and so on. The final result of this process is the order given in Appendix A.

Note on the Revised Word Order

The list below is of those words which have shifted in position by eight places or more. (The size of the shift is given in parenthesis after each word.)

* IE, in 19 cases out of 20.

Now easier than previously	*Now more difficult than previously*
refrigerator (28)	glycerine (25)
emergency (28)	perambulating (16)
encyclopaedia (27)	melancholy (15)
events (15)	perpetual (12)
some (12)	labourers (11)
one (11)	commenced (9)
unique (11)	fatigue (9)
terminology (8)	trudging (9)
microscopical (8)	exorbitant (9)
binocular (8)	constitutionally (8)
my (8)	just (8)
	an (8)

A shift of 8 words is the equivalent of 9½ months of reading age; 25 words is equivalent to 2½ years. These changes are broadly similar to those found by Vernon in Alberta and by Shearer and Apps in Cheshire.

(4) *Restricted Range of Reading Age Norms*

It has already been explained on page 7 that Reading Age Norms have *not* been provided for scores of less than 27 (ie, for a reading age of less than 6·4 years). The reason for not doing so is that in the standardisation data a marked discontinuity in the relationship between score and reading age was found to occur between 6.4 years and 6.3 years. Whereas reading age and score diminish together in step (ie, in a linear relationship) from 12.0 to 6.4 years at a rate of approximately ·88 words per month, the gradation from 6.4 to 6.3 years is marked by a decline in score of approximately 8 words. Thereafter, for the younger ages, the relationship is almost restored at the lower level with a rate of decline in score of approximately 1·0 words per month. The reason for this discontinuity is probably that whereas the majority of pupils aged 6.4 years at the time of testing had completed 2 years of schooling, the majority of those aged 6.3 years had completed only one year's schooling. It would appear that, *at this early stage in pupils' schooling*, length of schooling has an effect on level of reading attainment that

obscures that of age. If this supposition is correct, the age at which the discontinuity would appear would be directly related to the choice of month in the year for carrying out the standardisation. In view of the influence of these—and possibly other—factors affecting the reading ages obtained in the standardisation, it was thought wise to withhold reading age norms in that part of the overall range where they might prove misleading.

(5) *Use of the Class Norms other than at the end of the School Session*

It has been pointed out on page 7 that the norms provided in this manual were obtained during a testing programme conducted in the month of June. The Class Norms are therefore correct only for this stage in the school session. At the beginning of a school session the use of the norms for the end of the previous session would be unlikely to give rise to serious error, but users may wish to estimate appropriate values for points in time during the school session. If an even rate of growth in attainment is assumed to occur throughout the school session intermediate values can, of course, be calculated using average monthly growth over the ten months of the school session. Since, however, growth in attainment may not in fact be uniform, such interpretations should be made with caution.

It is important to note that the Reading Age Norms are free from this difficulty and may therefore be used directly at any point in the school session.

APPENDIX A *The Test Card (¼ actual size)*

to is up he at
for my sun one of

big some his or an
went boys that girl water

just day wet pot things
no told love now sad

nurse carry quickly village scramble
journey terror return twisted shelves

beware explorer known projecting tongue
serious domineer obtain belief luncheon

emergency events steadiness nourishment fringe
formulate scarcely universal commenced overwhelmed

circumstances destiny urge labourers exhausted
trudging refrigerator melodrama encyclopaedia apprehend

motionless ultimate atmosphere reputation binocular
economy theory humanity philosopher contemptuous

autobiography excessively champagne terminology perambulating
efficiency unique perpetual mercenary glycerine

influential atrocious fatigue exorbitant physician
microscopical contagion renown hypocritical fallacious

phlegmatic melancholy palpable eccentricity constitutionally
alienate phthisis poignancy ingratiating subtlety

THE BURT WORD READING TEST (1974 REVISION)

NAME _____ SCORE _____

SCHOOL _____ READING AGE _____

DATE OF TEST _____ AGE _____ MENTAL AGE (IF KNOWN) _____

DATE OF BIRTH _____ EXAMINER'S INITIALS _____

APPENDIX B
TABLES OF NORMS

TABLE 1
NORMS FOR THE CONVERSION OF RAW SCORES INTO EQUIVALENT READING AGES

Score							27	28	29	30
R.A.							6.4	6.5	6.6	6.7
Score	31	32	33	34	35	36	37	38	39	40
R.A.	6.8	6.9	6.10	6.10	6.11	7.0	7.1	7.1	7.2	7.3
Score	41	42	43	44	45	46	47	48	49	50
R.A.	7.5	7.6	7.7	7.8	7.9	7.10	7.11	8.0	8.2	8.3
Score	51	52	53	54	55	56	57	58	59	60
R.A.	8.4	8.5	8.6	8.7	8.9	8.10	8.11	9.0	9.1	9.2
Score	61	62	63	64	65	66	67	68	69	70
R.A.	9.3	9.4	9.6	9.7	9.8	9.9	9.10	9.11	10.0	10.2
Score	71	72	73	74	75	76	77	78	79	80
R.A.	10.3	10.4	10.5	10.6	10.7	10.9	10.10	10.11	11.0	11.1
Score	81	82	83	84	85	86	87	88	89	90
R.A.	11.2	11.3	11.4	11.6	11.7	11.8	11.9	11.10	11.11	12.0

Notes:

(1) This table is suitable for use only with children in Primary 2 or above. It should not be used for Primary 1.

(2) By Primary 1 is meant the class to which pupils are normally first admitted at the age of five. (In Scotland the seven years of primary schooling are designated P.1-P.7.)

(3) The notation 7.5 stands for 7 years 5 months not 7 years 6 months.

TABLE 2
CLASS NORMS

Stage of School	*Percentile Scores for School Year Groups together with lowest and highest scores*										
	Lowest score	*10%*	*20%*	*30%*	*40%*	*50%*	*60%*	*70%*	*80%*	*90%*	*Highest score*
End of Primary One	0	2	4	6	9	12	15	19	24	32	60
End of Primary Two	0	14	20	24	28	31	34	38	43	51	78
End of Primary Three	15	30	36	40	43	46	50	55	61	70	90
End of Primary Four	25	33	40	44	50	56	61	66	71	75	95
End of Primary Five	25	42	50	58	62	67	72	77	82	89	100
End of Primary Six	30	48	60	67	72	77	82	87	92	97	105
End of Primary Seven	40	62	72	80	84	88	92	96	99	102	108

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